

550, 825

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
7 October 2004 (07.10.2004)

PCT

(10) International Publication Number  
WO 2004/085116 A1

(51) International Patent Classification<sup>7</sup>: B25B 13/46

(21) International Application Number:  
PCT/GB2004/001312

(22) International Filing Date: 25 March 2004 (25.03.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
0306826.9 25 March 2003 (25.03.2003) GB

(71) Applicant (for all designated States except US): SMART  
TOOLS LTD [GB/GB]; Baden Powell Road, Kirkton In-  
dustrial Estate, Arbroath, Angus DD11 3LS (GB).

(72) Inventor; and

(75) Inventor/Applicant (for US only): BUCHANAN, Nigel  
[GB/GB]; Beechtree Cottage, New Gilston, By Leven, Fife,  
Scotland KY8 5TF (GB).

(74) Agents: BALDWIN, Mark et al.; R G C Jenkins & Co, 26  
Caxton Street, London SW1H 0RJ (GB).

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

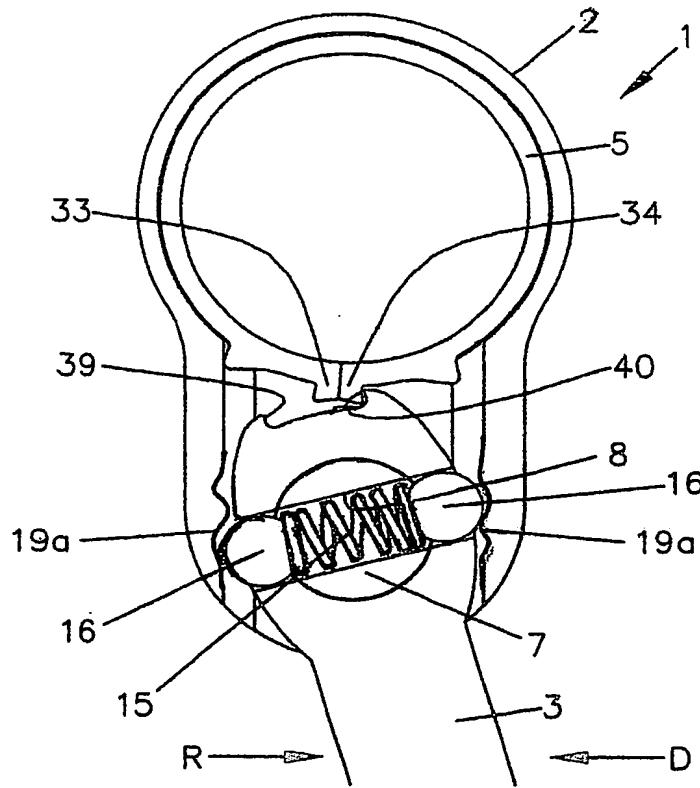
(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), Euro-  
pean (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR,  
GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK,  
TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,  
ML, MR, NE, SN, TD, TG).

Published:

— with international search report

[Continued on next page]

(54) Title: A WRENCH



(57) Abstract: A wrench (1) is disclosed having a handle (3) mounted pivotally with a head portion (2) for engaging a drive socket to tighten or slacken a fastener such as a nut, bolt or screw, and a resilient split ring (5) as operative portion intermediate the handle (3) and head portion (2). The head portion (2) has an aperture into which the split ring (5) is sprung to define a radial gap in the split ring (5) and a camming arm (33, 34) extending radially outwardly from each end of the split ring (5) respectively. The split ring (5) also has stops (37, 38) engaging the head portion under the natural resilience in the split ring (5) to prevent undue rotation of the ring in the head portion.

WO 2004/085116 A1



*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*